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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,700	11/17/2003	Wen-Jian Lin	DEE-PT064.1	5380
3624	7590	07/22/2004	EXAMINER	
VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			DUONG, THOI V	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/714,700

Applicant(s)

LIN, WEN-JIAN

Examiner

Thoi V Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 10/139,852.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0204.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

***Priority***

1. This application appears to be a division of Application No. 10/139,852, filed November 17, 2003. A later application for a distinct or independent invention, carved out of a pending application and disclosing and claiming only subject matter disclosed in an earlier or parent application is known as a divisional application or "division." The divisional application should set forth only that portion of the earlier disclosure which is germane to the invention as claimed in the divisional application.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (USPN 6,195,140 B1) in view of Yazawa et al. (USPN 4,431,272).

Re claim 1, as shown in Figs. 37 and 38, Kubo et al. discloses a method of manufacturing a thin film transistor liquid crystal structure comprising the steps of:

(a) providing an insulating substrate 201;

(b) forming a gate structure (gate electrode 210 and gate line 202) on a portion of said insulating substrate (Fig. 38A);

(c) forming an insulating layer 209 (gate insulating film) on said insulating substrate (Fig. 38A);

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(d) forming a first semiconductor structure 212 and a second semiconductor structure 211 on said insulating layer (col. 32, lines 52-57);

(e) forming a conducting layer 241 on said insulating layer and said second semiconductor structure (Fig. 38A and col. 32, lines 57-59);

(f) etching said conducting layer to define a source region and a drain region 243 and a curved structure 242 (Fig. 38B and col. 32, lines 60-64); and

(g) forming a transparent electrode 246 on said curved structure, wherein said transparent electrode is electrically contacted with said source region and said drain region (Fig. 38D and col. 34, lines 1-9).

Re claim 7, as shown in Fig. 29 (see also Fig. 18), Kubo et al. discloses a thin film transistor liquid crystal display comprising:

an insulating substrate 70 (Fig. 18);

a thin film transistor 71 formed on said insulating substrate (Fig. 18);

a curved structure 170 formed on said insulating substrate (Fig. 29); and

a transparent electrode layer 168 formed on said curved structure (Fig. 18 and col. 27, lines 53-56).

Re claim 3, said conducting layer is formed from a metallic material (col. 4, lines 54-55).

Re claims 6 and 11, said transparent electrode is formed from indium-tin-oxide (col. 4, lines 56-57).

Kubo et al. discloses a method of manufacturing a thin film transistor that is basically the same as that recited in claims 1 and 7 except for a curved structure with an inclination.

As shown in Fig. 4a, Yazawa et al. discloses a liquid crystal display device comprising a conducting layer 41 (an aluminum electrode) having a curved structure 42 with an inclination formed by etching the conducting layer (col. 3, line 67 through col. 4, line 9),

wherein, re claims 2 and 8, an angle "theta" of said inclination is about 5 to 30 degrees (col. 6, lines 58-64); and

wherein, re claims 4, 5, 9 and 10, said curved structure is an awl-shaped structure or a conical structure as shown in Figs. 4b and 11a.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of manufacturing a thin film transistor liquid crystal structure of Kubo et al. with the teaching of Yazawa et al. by forming a conducting layer having a curved structure with an inclination so as to obtain a widened viewing angle for the display (Abstract).

### ***Conclusion***

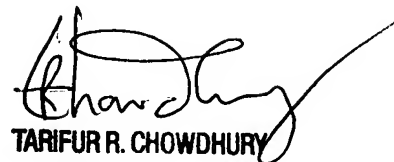
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong

07/20/2004



TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER